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Draft report

Chapter II

Recommendations and decisions

B. Report of the Scientific and Technical Subcommittee on its fifty-second session

1. The Committee took note with appreciation of the report of the Scientific and Technical Subcommittee on its fifty-second session (A/AC.105/1088), which contained the results of its deliberations on the items considered by the Subcommittee in accordance with General Assembly resolution 69/85.

2. The Committee expressed its appreciation to Előd Both (Hungary) for his able leadership during the fifty-second session of the Subcommittee.

3. The representatives of Austria, Algeria, Canada, Chile, China, the Czech Republic, Egypt, Germany, India, Iran (Islamic Republic of), Japan, Mexico, Pakistan, the Republic of Korea, the Russian Federation, Saudi Arabia, the Syrian Arab Republic, Turkey, Venezuela (Bolivarian Republic of) and the United States made statements under the item. Statements were also made by the representative of Chile on behalf of the Group of Latin American and Caribbean States and on behalf of the Group of 77 and China. During the general exchange of views, statements relating to the item were also made by other member States.

4. The Committee heard the following presentations:

(a) "Japan's human space activity 30-year history", by the representative of Japan;

(b) "Operation and development of the BeiDou Navigation Satellite System", by the representative of China;

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(c) "The Italian scientific contribution to the BepiColombo mission", by the representative of Italy;

(d) "A preliminary suggestion for international cooperation on the Chang'e-4 lunar probe", by the representative of China.

1. United Nations Programme on Space Applications

(a) Activities of the United Nations Programme on Space Applications

5. The Committee took note of the discussion of the Subcommittee under the item on the United Nations Programme on Space Applications, as reflected in the report of the Subcommittee (A/AC.105/1088, paras. 31-52).

6. The Committee noted that the priority areas of the Programme were environmental monitoring, natural resource management, satellite communications for tele-education and telemedicine applications, disaster risk reduction, the use of global navigation satellite systems (GNSS), the Basic Space Science Initiative, space law, climate change, the Basic Space Technology Initiative and the Human Space Technology Initiative. The Committee also noted that the new thematic priority of monitoring and protecting biodiversity and ecosystems was included in the Programme for 2015.

7. The Committee took note of the activities of the Programme carried out in 2014, as presented in the report of the Subcommittee (A/AC.105/1088, paras. 41-44) and in the report of the Expert on Space Applications (A/AC.105/1085, annex I).

8. The Committee expressed its appreciation to the Office for Outer Space Affairs for the manner in which the activities of the Programme had been implemented. The Committee also expressed its appreciation to the Governments and intergovernmental and non-governmental organizations that had sponsored the activities.

9. The Committee noted with satisfaction that progress was being made in the implementation of the activities of the Programme for 2015, as described in the report of the Subcommittee (A/AC.105/1088, para. 45).

10. The Committee also noted with satisfaction that the Office for Outer Space Affairs was helping developing countries and countries with economies in transition to participate in and benefit from activities being carried out under the Programme.

11. The Committee noted with concern the limited financial resources available to implement the Programme and appealed to States and organizations to continue supporting the Programme through voluntary contributions.

12. The Committee noted that additional human resources were necessary to fully implement the range of activities to be conducted by the Programme and that without those additional resources, the Office would not be in a position to meet the increasing demands by Member States with respect to the sustainable development goals and the post-2015 development agenda.

13. The Committee took note of the conference room papers entitled "Space technologies for monitoring and protecting biodiversity and ecosystems: a proposed new thematic priority for the United Nations Programme on Space Applications"

(A/AC.105/2015/CRP.10); "Basic Space Technology Initiative: activities in 2014-2015 and plans for 2016 and beyond" (A/AC.105/2015/CRP.11); and "Report on the United Nations/Japan Workshop on Space Weather 'Science and data products for ISWI instruments'" (A/AC.105/2015/CRP.12).

(i) Conferences, training courses and workshops of the United Nations Programme on Space Applications

14. The Committee endorsed the workshops, training courses, symposiums and expert meetings planned for the remainder of 2015 and expressed its appreciation to Austria, Costa Rica, Japan, Kenya, the Russian Federation, South Africa and the United Arab Emirates, as well as to IAF, for co-sponsoring and hosting those activities (see A/AC.105/1085, annex II).

15. The Committee noted that the Islamic Republic of Iran had proposed to postpone the United Nations/Islamic Republic of Iran Workshop on the Use of Space Technology for Dust Storm and Drought Monitoring in the Middle East Region, scheduled to be held in Tehran in September 2015.

16. The Committee endorsed the programme of workshops, training courses, symposiums and expert meetings relating to environmental monitoring, natural resource management, global health, GNSS, basic space science, basic space technology, climate change, human space technology and the socioeconomic benefits of space activities to be held in 2016 for the benefit of developing countries.

(ii) Long-term fellowships for in-depth training

17. The Committee expressed its appreciation to the Government of Italy, which, through the Politecnico di Torino and the Istituto Superiore Mario Boella and with the collaboration of the Istituto Elettrotecnico Nazionale Galileo Ferraris, had continued to provide fellowships for postgraduate studies on GNSS and related applications.

18. The Committee expressed its appreciation to the Government of Japan for continuing the United Nations/Japan Long-term Fellowship Programme on Nanosatellite Technologies, in cooperation with the Kyushu Institute of Technology.

19. The Committee expressed its appreciation to the Government of Germany, which, in collaboration with the Centre of Applied Space Technology and Microgravity and the German Aerospace Center (DLR), had successfully conducted the first cycle of its drop tower experiments.

20. The Committee welcomed the cooperation programme between the Office for Outer Space Affairs and the Japan Aerospace Exploration Agency (JAXA) on offering entities located in States Members of the United Nations an opportunity to deploy a small satellite of their design and construction from the Japanese Experiment Module (Kibo) of the International Space Station, in order to promote international cooperation and capacity-building in space technology and its applications under the United Nations Programme on Space Applications. The undertaking of similar joint projects by the Office and other space agencies was encouraged.

21. The Committee noted that it was important to increase opportunities for capacity-building and in-depth education in all areas of space science, technology, applications and law through cooperative projects and long-term fellowship programmes, including by the Office, and urged Member States to make such opportunities available at their relevant institutions.

(iii) Technical advisory services

22. The Committee noted with appreciation the technical advisory services provided under the United Nations Programme on Space Applications in support of activities and projects promoting regional cooperation in space applications, as referred to in the report of the Expert on Space Applications (A/AC.105/1085, paras. 39-48).

(iv) Regional centres for space science and technology education, affiliated to the United Nations

23. The Committee noted with satisfaction that the United Nations Programme on Space Applications continued to emphasize, promote and foster cooperation with Member States at the regional and global levels to support the regional centres for space science and technology education, affiliated to the United Nations. The highlights of the activities of the regional centres supported under the Programme in 2013-2015 were presented in the report of the Expert on Space Applications (A/AC.105/1085, annex III).

24. The Committee noted with appreciation that the host countries of the regional centres for space science and technology education, affiliated to the United Nations, in line with their obligations as host countries, were continuing to provide the centres with financial and in-kind support.

25. The Committee noted with concern the limited financial resources available to some of the regional centres and appealed to Member States and organizations in the regions where those centres were located to support the activities of the centres through financial and in-kind contributions.

26. The Committee welcomed the inauguration of the new Regional Centre for Space Science and Technology Education for Asia and the Pacific, located at Beihang University in Beijing, and noted with appreciation the commitment of the Government of China to supporting the work of the centre.

27. The Committee noted that the Regional Centre had completed the selection of 42 overseas students for the first long-term scholarship programme and that those students would start their studies in September 2015. In April 2015, the regional centre had organized a short-term training programme on satellite navigation and its applications. Two other short-term training programmes, on remote sensing and on space law and policy, were to be held in the second half of 2015.

(b) International Satellite System for Search and Rescue

28. The Committee noted with satisfaction that the International Satellite System for Search and Rescue (COSPAS-SARSAT) currently had 41 member States and two participating organizations and that there was additional interest in being associated with the programme. The Committee noted with appreciation that the

worldwide coverage for emergency beacons had been made possible by the space segment, which consisted of six polar-orbiting and six geostationary satellites provided by Canada, France, India, the Russian Federation and the United States, along with the European Organization for the Exploitation of Meteorological Satellites (EUMETSAT), as well as by the ground-segment contributions made by 26 other countries. The Committee noted that, since becoming operational in 1982, COSPAS-SARSAT had provided assistance in rescuing nearly 40,000 persons in more than 11,000 search and rescue events and that in 2014, alert data from the system had helped to save more than 2,100 lives in over 700 search and rescue events worldwide.

29. The Committee noted that the use of satellites in medium-Earth orbit continued to be explored, with a view to improving international satellite-aided search and rescue operations.

2. Space technology for socioeconomic development in the context of the United Nations Conference on Sustainable Development and the post-2015 development agenda

30. The Committee took note of the discussion of the Subcommittee under the item on space technology for socioeconomic development in the context of the United Nations Conference on Sustainable Development and the post-2015 development agenda, as reflected in the report of the Subcommittee (A/AC.105/1088, paras. 53-69).

31. The Committee endorsed the recommendations and decisions on the item made by the Subcommittee and its Working Group of the Whole (A/AC.105/1088, para. 69, and annex I, paras. 4 and 7).

32. The Committee recalled that the General Assembly, in its resolution 69/85, had reiterated the need to promote the benefits of space technology and its applications in the major United Nations conferences and summits for economic, social and cultural development and related fields, and had recognized that the fundamental significance of space science and technology and their applications for global, regional, national and local sustainable development processes should be promoted in the formulation of policies and programmes of action and their implementation, including through efforts towards achieving the objectives of those conferences and summits, including implementing the United Nations Millennium Declaration and contributing to the post-2015 development agenda process.

33. The Committee endorsed the mandate and workplan of the expert group on space and global health (A/AC.105/1088, annex I, para. 7).

3. Matters relating to remote sensing of the Earth by satellite, including applications for developing countries and monitoring of the Earth's environment

34. The Committee noted the discussion of the Subcommittee under the item on matters relating to remote sensing of the Earth by satellite, including applications for developing countries and monitoring of the Earth's environment, as reflected in the report of the Subcommittee (A/AC.105/1088, paras. 70-84).

35. The Committee also noted a number of regional and international initiatives aimed at strengthening the use of remote sensing data to further socioeconomic and sustainable development, in particular for the benefit of developing countries.

36. In the course of the discussion, delegations reviewed national and cooperative programmes on using remote sensing data. A number of areas where remote sensing data continued to be crucial for well-informed decision-making were singled out. Examples included climate change monitoring, disaster management, management of natural resources, illicit crop monitoring, drought and desertification forecasting, oceanography, rural development, agriculture, urban planning, food security, public health and humanitarian and development aid, in particular monitoring populations and natural resources in camps for refugees and internally displaced persons.

37. In view of the increasing importance of remote sensing technology and other space science and technology applications, some delegations called for increased capacity-building in those areas to enable relevant national actors, in particular in developing countries, to use remote sensing technology when taking preventive measures against environmental degradation and related hazards. Those delegations also expressed their support for initiatives that promoted the availability and distribution of space-based data to developing countries at no cost.

38. The Committee noted the important role played by regional organizations and coordination mechanisms in promoting regional cooperation in the use of remote sensing technology, such as APSCO, APRSAF and its Sentinel Asia project, as well as initiatives undertaken by ESCAP on drought monitoring and disaster management.

39. The Committee also noted the number of launches of Earth observation satellites and a number of cooperative initiatives by developing countries to launch such satellites, and stressed the need to continue enhancing the capacities of developing countries with regard to the use of remote sensing technology.

4. Space debris

40. The Committee took note of the discussion of the Subcommittee under the item on space debris, as reflected in the report of the Subcommittee (A/AC.105/1088, paras. 85-113).

41. The Committee endorsed the decisions and recommendations of the Subcommittee on the item (A/AC.105/1088, paras. 90 and 113).

42. The Committee noted with appreciation that some States were already implementing space debris mitigation measures, consistent with the Space Debris Mitigation Guidelines of the Committee and/or the Inter-Agency Space Debris Coordination Committee (IADC) Space Debris Mitigation Guidelines, and that other States had developed their own space debris mitigation standards based on those guidelines. The Committee also noted that other States were using the IADC Guidelines and the European Code of Conduct for Space Debris Mitigation as reference points in their regulatory frameworks for national space activities. The Committee further noted that other States had cooperated, in the framework of the ESA space situational awareness programme, to address the issue of space debris.

43. The Committee urged those countries that had not yet done so to consider voluntary implementation of the Space Debris Mitigation Guidelines of the Committee and/or the IADC Space Debris Mitigation Guidelines.

44. The Committee noted with appreciation the establishment of the Space Debris Observation and Operation Centre by the China National Space Administration on 8 June 2015, and the China-Brazil Joint Laboratory for Space Weather on 6 August 2014, which would contribute to international cooperation in space debris and space weather.

45. Some delegations expressed the view that the future of space activities largely depended on space debris mitigation and removal, and that the issue of mitigation of space debris should continue to be treated as a priority, with a view to further increasing research in the areas of technology for space debris observation, space debris environmental modelling and technologies to protect space systems from space debris and to limit the creation of additional space debris.

46. Some delegations expressed the view that it was necessary to continue the thorough consideration of the issue of space debris mitigation, in particular by paying greater attention to the problem of debris coming from platforms with nuclear power sources in outer space and to collisions of space objects with space debris and their derivatives, as well as to ways of improving the technology for monitoring space debris.

47. Some delegations expressed the view that States, especially those that were largely responsible for the situation with regard to space debris, and those that had the ability to take action for space debris mitigation, should disseminate information on actions taken to reduce the generation of space debris.

48. The view was expressed that the Space Debris Mitigation Guidelines of the Committee had proved to be an important mechanism for international cooperation to address major opportunities and challenges in the peaceful use and exploration of outer space.

49. The view was expressed that the investigation and consideration of new measures to manage space debris in the long term were indispensable to ensuring the long-term sustainability of outer space activities.

50. The view was expressed that it was important to address the issue of the proliferation of space debris without hampering the development of the capabilities of emerging spacefaring nations.

51. The view was expressed that the issue of active space debris removal could become a new item on the agenda of the Subcommittee.

52. The view was expressed that space debris mitigation measures were possible even for small and very small satellites.

53. The view was expressed that, given the significant risks associated with the proliferation of space debris threatening the integrity of satellites, the International Space Station and the men and women on board the International Space Station, the issue of space debris mitigation should continue to receive the attention of the Committee.

54. The view was expressed that spacefaring countries should assist countries with emerging space programmes in building capacities with regard to the implementation of space debris mitigation measures, including by providing training and transfer of relevant technology, and without imposing undue costs on the space programmes of the developing nations.

5. Space-system-based disaster management support

55. The Committee took note of the discussion of the Subcommittee under the item on space-system-based disaster management support, as reflected in the report of the Subcommittee (A/AC.105/1088, paras. 114-132).

56. The Committee had before it a proposed workplan for the biennium 2016-2017 of the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER), contained in document A/AC.105/1093. The Committee also had before it conference room papers entitled "United Nations/Germany International Conference on Earth Observation: global solutions for the challenges of sustainable development in societies at risk" (A/AC.105/2015/CRP.9) and "Space-based information and the Sendai Framework for Disaster Risk Reduction" (A/AC.105/2015/CRP.16).

57. At the 690th meeting of the Committee, the Director of the Office for Outer Space Affairs, in her statement to the Committee, thanked the Governments of Austria, China and Germany for their commitment to the UN-SPIDER programme and the support they had given it since its inception. She invited interested Member States to consider providing necessary resources as voluntary contributions and/or as concrete offers for collaboration and partnership, in order to enable the UN-SPIDER programme to respond to the growing demand for support in disaster risk reduction and emergency response. The Director also underlined the significant role of the UN-SPIDER knowledge portal (www.un-spider.org) in assisting Member States in emergency situations, including during the recent earthquakes in Bangladesh, China, India and Nepal.

58. The Committee noted that natural disasters continued to be a matter of great concern to all countries and that increased efforts should therefore be vested in strengthening the use of space-based technology for disaster risk reduction.

59. The Committee welcomed the adoption in March 2015 of the Sendai Framework for Disaster Risk Reduction 2015-2030, in which the value of space-based technology and Earth observation for disaster management and emergency response, paving the way for building more resilient societies through effective disaster risk management, was recognized. The Committee noted that the efforts conducted by the Office for Outer Space Affairs and its UN-SPIDER programme, as detailed in A/AC.105/2015/CRP.16, had resulted in the final text of the Sendai Framework making specific references to the importance of using information gathered by space-based platforms and in situ to understand the risks connected with disasters of natural causes worldwide. The efforts of the Office and its UN-SPIDER programme had included the promotion of international cooperation as a way to enhance the use of space-based technologies and related services at the national and local levels.

60. It was noted that, during the Third World Conference on Disaster Risk Reduction, held in Sendai, Japan, the Global Earth Observation Partnership was

launched as a voluntary effort by the Office for Outer Space Affairs, its UN-SPIDER programme and 17 other partners to facilitate the use of Earth observation and space-based technologies to contribute to the achievement of the main goal and the seven targets stipulated in the Sendai Framework.

61. The Committee noted with satisfaction that a joint United Nations/Germany international conference on Earth observation had been held in Bonn, Germany, from 26 to 28 May to discuss global solutions for the challenges of sustainable development in societies at risk. It had been co-organized with DLR and the German Federal Ministry for Economic Affairs and Energy to discuss ways and means of institutionalizing the use of space-based information in national plans and regional and global platforms, and to review international space cooperation mechanisms aimed at fostering national implementation of the Sendai Framework.

62. The Committee noted with satisfaction that the fifth annual conference organized by the UN-SPIDER Beijing office would be held from 14 to 16 September in Beijing, focusing on the implementation of the Sendai Framework.

63. The Committee noted with appreciation the information and services provided by the UN-SPIDER programme, such as the technical advisory missions, as a valuable contribution to strengthening disaster risk preparedness and emergency response at the national level.

64. Some delegations called on the Office for Outer Space Affairs and its UN-SPIDER programme to intensify their capacity-building activities through training programmes, in particular in developing countries.

65. The Committee noted the valuable contribution that Member States were making with their ongoing activities to increase the availability and use of space-based solutions in support of disaster management, including the Sentinel Asia project and its coordination of emergency observation requests through the Asian Disaster Reduction Centre, the emergency mapping service of the European Earth Observation Programme (Copernicus) and the Charter on Cooperation to Achieve the Coordinated Use of Space Facilities in the Event of Natural or Technological Disasters (also called the International Charter on Space and Major Disasters). The Committee noted the need to strengthen disaster risk reduction efforts by using services of the UN-SPIDER programme and other disaster relief platforms to enable more countries to benefit from disaster risk reduction efforts.

66. The Committee also noted the valuable contribution that the Global Earth Observation Partnership could make in the coming years as a vehicle for enhancing the use by developing countries of space-based and in situ information to reduce both their exposure to hazards and their vulnerability.

67. The Committee noted the capacity-building efforts made by regional centres affiliated to the United Nations, in particular the Regional Centre for Space Science and Technology Education for Asia and the Pacific, by conducting courses on disaster risk reduction and emergency response.

6. Recent developments in global navigation satellite systems

68. The Committee took note of the discussion of the Subcommittee under the item on recent developments in GNSS, as reflected in the report of the Subcommittee (A/AC.105/1088, paras. 133-155).

69. The Committee noted that 2015 marked the tenth anniversary of the establishment of ICG under the auspices of the United Nations. It was highlighted that ICG had been highly successful in bringing together the providers and users of GNSS to promote its use and integration into national infrastructure, particularly in developing countries.

70. The Committee expressed its appreciation to the Office for Outer Space Affairs for its continued support as executive secretariat for ICG and its Providers' Forum and for the organization of workshops and training courses focusing on capacity-building in the use of GNSS-related technologies in various fields of science and industry, including on the subject of space weather effects in the ionosphere and their impact on positioning.

71. The Committee noted with appreciation that the ninth meeting of ICG and the thirteenth meeting of its Providers' Forum, organized by the European Commission and the European GNSS Agency on behalf of the European Union, had been held in Prague from 10 to 14 November 2014. The Committee noted that the tenth meeting of ICG would be organized by the United States and held in Boulder, Colorado, United States, from 1 to 6 November 2015. The Committee also noted the expression of interest by the Russian Federation in hosting the eleventh meeting of ICG in 2016.

72. The Committee noted with appreciation the financial contributions made by the United States and the European Commission to the Office for Outer Space Affairs in support of GNSS-related activities, ICG and the ICG Providers' Forum.

73. The Committee noted that regular meetings among China, India, Japan, the Russian Federation, the United States and the European Union had been held to discuss ways in which interoperability among GNSS providers could be enhanced and services for the global user community could be improved.

7. Space weather

74. The Committee took note of the discussion of the Subcommittee under the item on space weather, as reflected in the report of the Subcommittee (A/AC.105/1088, paras. 156-169).

75. The Committee welcomed the establishment of the Expert Group on Space Weather of the Subcommittee, which met for the first time on the margins of the fifty-second session of the Subcommittee, under the leadership of Canada, to define its programme of work, drawing on the best practices of the work of expert group C on space weather of the Working Group on the Long-term Sustainability of Outer Space Activities.

76. The Committee endorsed the mandate of the Expert Group, as contained in paragraph 169 of the report of the Subcommittee (A/AC.105/1088), which was to promote awareness, provide guidance and enable communication and cooperation in space weather-related activities among States members of the Committee and related national and international organizations.

77. The Committee noted that the work of the Expert Group could contribute to the Inter-programme Coordination Team on Space Weather, coordinated by the World Meteorological Organization, and to the creation of the space weather road map, initiated by the Committee on Space Research (COSPAR).

78. The Committee also noted that a number of national space weather strategies were being developed, such as the national space weather strategy of the United States, which aimed at enhancing national preparedness for severe space weather events and attached great importance to promoting the international coordination of the exchange of data and services related to space weather.

79. The Committee further noted that a number of events were being held that were aimed at identifying areas of cooperation among member States and national and international organizations to improve national capabilities and enhance global efforts related to space weather, including the United Nations/Japan Workshop on Space Weather held in Fukuoka, Japan, from 2 to 6 March; the workshop entitled "Space weather services to build global resilience", led by the National Oceanic and Atmospheric Administration of the United States, held on the margins of the fifty-second session of the Scientific and Technical Subcommittee; and the planned half-day symposium of the COSPAR/International Living with a Star programme, to be held during the fifty-third session of the Scientific and Technical Subcommittee, in 2016.

80. The Committee noted that the International Centre for Space Weather Science and Education (ICSWSE), based at Kyushu University (Japan), continued its support for space weather research, including the operation of a Magnetic Data Acquisition System (MAGDAS) global network of magnetometers, and space weather education, including the implementation of schools for building capacity in connection with MAGDAS. It also noted that the ISWI newsletter continued to be published by ICSWSE.

8. Near-Earth objects

81. The Committee took note of the discussion of the Subcommittee under the item on near-Earth objects, as reflected in the report of the Subcommittee (A/AC.105/1088, paras. 170-191).

82. The Committee recalled that effective responses for the mitigation of hazard threats from near-Earth objects were best addressed through international cooperation in observation, characterization, information-sharing and capacity-building, and in the advancement of technologies for the collection of data on near-Earth objects and the development of near-Earth object observation spacecraft.

83. The Committee noted with satisfaction the ongoing work by the International Asteroid Warning Network (IAWN) and of the Space Mission Planning Advisory Group (SMPAG), established as a result of the recommendations for an international response to the near-Earth object impact threat, recalled by the General Assembly in its resolution 69/85.

84. The Committee noted that the steering committee of IAWN had held a meeting on 11 November 2014 in conjunction with the forty-sixth annual meeting of the Division of Planetary Sciences of the American Astronomical Society. The steering committee heard presentations about the current capabilities and activities of multiple near-Earth object characterization projects. A final draft of the letter of intent for participation in IAWN was presented and discussed. Further information can be found at www.minorplanetcenter.net/IAWN.

85. The Committee noted that the third meeting of SMPAG had taken place at the European Space Research Institute of ESA in Frascati, Italy, on 9 and 10 April 2015. The main focus had been the discussion of the SMPAG workplan. All task leaders had presented the status of their work items and it had been agreed that semi-annual reports on ongoing tasks would be provided by the task leaders.

86. The Committee was informed that the next SMPAG steering committee meeting was to be held on the margins of the meeting of the Division for Planetary Sciences of the American Astronomical Society in National Harbor, Maryland, United States, from 8 to 13 November 2015. Task leaders had been invited to participate, further information could be found on the official SMPAG website.

87. The view was expressed that the technical work of IAWN and SMPAG would have to be complemented by high-level political decision-making mechanisms so that measures to counter an emerging threat could be implemented in a timely and effective manner.

88 The Committee noted that the Action Team on Near-Earth Objects had successfully established IAWN and SMPAG and that the Subcommittee had recommended that it be dissolved.

89. The Committee noted with appreciation the work of the Action Team and commended its achievements in coordinating international efforts to mitigate the hazard threat from near-Earth objects, in particular by establishing IAWN and SMPAG. The Committee also thanked the Chair of the Action Team, Sergio Camacho (Mexico), for his dedicated work.

9. Use of nuclear power sources in outer space

90. The Committee took note of the discussion of the Subcommittee under the item on the use of nuclear power sources in outer space, as reflected in the report of the Subcommittee (A/AC.105/1088, paras. 192-208).

91. The Committee endorsed the report of the Subcommittee and the Working Group on the Use of Nuclear Power Sources in Outer Space, reconvened under the chairmanship of Sam A. Harbison (United Kingdom) (A/AC.105/1088, para. 208, and annex II).

92. The Committee encouraged States and international intergovernmental organizations to begin or to continue implementing the Safety Framework for Nuclear Power Source Applications in Outer Space (A/AC.105/934).

93. Some delegations expressed the view that the Safety Framework, in its present form, was not adequate to meet the challenges posed by the use of nuclear power sources in outer space and that the proliferation of such power sources in outer space, including in terrestrial orbits, should not be allowed, as their effects on humankind and the environment had not been assessed and there was no definite framework establishing responsibilities and introducing technical and legal tools that could effectively address the critical situations that might arise because of improper practices.

94. Some delegations expressed the view that Governments bore international responsibility for national activities involving the use of nuclear power sources in

outer space conducted by governmental and non-governmental organizations and that the matter concerned all humanity.

95. Some delegations expressed the view that there should be greater coordination and interaction between the Scientific and Technical Subcommittee and the Legal Subcommittee in order to develop binding legal instruments to define the responsibilities of States in the use of nuclear power sources in outer space and to undertake research on ways and means of optimizing or substituting for the use of nuclear energy in outer space activities.

96. Some delegations expressed the view that more consideration should be given to the use of nuclear power sources in terrestrial orbits in order to address the problem of potential collisions of nuclear power source objects, as well as to their accidental re-entry into the Earth's atmosphere. Those delegations were of the view that more attention should be given to the matter through adequate strategies, long-term planning, regulations and the promotion of binding standards, as well as the Safety Framework for Nuclear Power Source Applications in Outer Space.

10. Long-term sustainability of outer space activities

97. The Committee took note of the discussion of the Subcommittee under the item on the long-term sustainability of outer space activities, as reflected in the report of the Subcommittee (A/AC.105/1088, paras. 209-259).

98. The Committee endorsed the recommendations and decisions on the item made by the Subcommittee and the Working Group on the Long-term Sustainability of Outer Space Activities, reconvened under the chairmanship of Peter Martinez (South Africa) (A/AC.105/1088, para. 259, and annex III, paras. 14 and 15).

99. The Committee had before it the following:

(a) Note by the Secretariat on an updated set of draft guidelines for the long-term sustainability of outer space activities (A/AC.105/L.298);

(b) Draft report of the Working Group on the Long-term Sustainability of Outer Space Activities: working paper by the Chair of the Working Group (A/AC.105/C.1/L.343), which had previously been made available to the Subcommittee at its fifty-second session;

(c) Working paper submitted by the Russian Federation entitled "Proposal on the review and consideration of the concept of a United Nations information platform serving common needs in collecting and sharing information on near-Earth space monitoring in the interests of the safety of space operations, and its architectural and programmatic aspects" (A/AC.105/L.293), which had previously been made available to the Subcommittee at its fifty-second session;

(d) Working paper submitted by the Russian Federation entitled "Achievement of a uniform interpretation of the right of self-defence in conformity with the Charter of the United Nations as applied to outer space as a factor in maintaining outer space as a safe and conflict-free environment and promoting the long-term sustainability of outer space activities" (A/AC.105/L.294), which had previously been made available to the Subcommittee at its fifty-second session;

(e) Working paper submitted by the Russian Federation entitled "Considerations regarding the modalities for consolidating the understanding on

issues of enhancing the practice in the registration of space objects in view of the need to ensure the safety of space operations" (A/AC.105/L.295), which had previously been made available to the Subcommittee at its fifty-second session;

(f) Working paper submitted by the Russian Federation entitled "Additional considerations and proposals for building up understanding of the priority aspects, comprehensive meaning and functions of the concept and practices of ensuring the long-term sustainability of outer space activities" (A/AC.105/L.296), which had previously been made available to the Subcommittee at its fifty-second session;

(g) Conference room paper submitted by the Russian Federation entitled "Time for the international community to decide whether it would support an effective set of solutions regarding the enhancement of the safety of space operations or wind up its work on this topic with inconclusive results devoid of any functional load and having marginal practical usefulness" (A/AC.105/2015/CRP.15);

(h) Conference room paper submitted by the United States entitled "Proposal by the United States for an expert group on collaborative space situational awareness" (A/AC.105/2015/CRP.17);

(i) Conference room paper submitted by the United States entitled "Views of the United States on draft guidelines for the long-term sustainability of outer space activities" (A/AC.105/2015/CRP.18);

(j) Conference room paper submitted by the Russian Federation entitled "Russian assessment of the initiative and actions of the European Union to advance its draft code of conduct in space" (A/AC.105/2015/CRP.19);

(k) Conference room paper submitted by the delegations of Brazil, China, India, the Russian Federation and South Africa (the BRICS States) entitled "Joint Statement of the delegations of the BRICS States at the fifty-eighth session of the Committee on the Peaceful Uses of Outer Space on issues pertaining to the elaboration of the guidelines on long-term sustainability of outer space activities" (A/AC.105/2015/CRP.20).

100. The Committee noted that the Working Group had met during the current session of the Committee, using available interpretation services, and that the Chair of the Working Group had held informal consultations with interested delegations during the current session. During those consultations, negotiations had been held on the updated set of draft guidelines (A/AC.105/L.298).

101. The Committee underscored the importance of the work of the Working Group and the progress it had made, and commended the Chair for his tireless efforts.

102. The Committee noted with appreciation that the updated set of draft guidelines, as contained in document A/AC.105/L.298, had been based on the reports of the four expert groups and included additional guidelines and amendments introduced by member States. The Committee noted that the update provided a good basis for further discussion and for the finalization of the guidelines.

103. The Committee noted that several recommendations contained in the report of the Group of Governmental Experts on Transparency and Confidence-Building Measures in Outer Space Activities (see A/68/189) related directly to the work of

the Working Group, which additionally highlighted the importance of timely completion of the guidelines.

104. The Committee also noted that the guidelines, once finalized, would contribute to the enhancement of transparency, to confidence-building and to the safety and sustainability of outer space activities, and would form part of a broader framework aimed at fostering the sustainable use of outer space.

105. Some delegations expressed the view that, although the updated set of guidelines provided a sound basis for their finalization, their overall coherence and consistency still needed further improvement. Suggestions included restructuring them into four chapters to improve clarity and overall balance; formulating their provisions consistently; clarifying their interrelationship with the existing legal framework; further consolidating, streamlining and shortening them; and ensuring that they contained action-oriented language.

106. Some delegations expressed the view that the Subcommittee should be able to complete the assigned task of elaborating the set of guidelines, as the guidelines would in the long term prove to be instrumental in furthering the interests of States and the international community in preserving outer space as an operationally safe, stable and conflict-free environment. Those delegations called upon member States to maintain a constructive and cooperative approach, with a view to ensuring that consolidation of the draft guidelines continued apace, as agreed by consensus.

107. Some delegations expressed the view that timely finalization of the guidelines was of paramount importance, in view of the proliferation of space debris and the increased risk of collisions of space objects, which posed a serious threat to the safety of space operations and the long-term sustainability of outer space activities.

108. The view was expressed that in finalizing the draft guidelines, the following principles should be preserved: long-term sustainability must be understood as a necessary prerequisite for the conduct of space activities in order to prevent any action that could affect, harm, damage or destroy space objects placed in orbit or on their way to orbit; outer space should be prevented from becoming an area of conflict among countries or with any private or public organization; placement of weapons or any hostile action in outer space should clearly be recognized as incompatible with the sustainable use of outer space; the adoption of space debris mitigation and removal measures must take into account the historical responsibilities of spacefaring nations and emerging spacefaring nations should not, under any condition, be obliged to bear the burden or share the costs of space debris removal.

109. Some delegations expressed the view that the guidelines should not include any provisions that might limit or hamper access to space for nations with emerging space capabilities.

110. Some delegations expressed the view that the complexity of issues relating to the long-term sustainability of outer space activities, such as active space debris removal, required consideration from both a technical and a legal perspective. Those delegations called for greater involvement of the Legal Subcommittee.

111. Some delegations expressed the view that, once the guidelines were finalized, the Scientific and Technical Subcommittee was the appropriate forum for the exchange of information on their implementation.

112. The view was expressed that the draft guidelines should not use the term "space situational awareness", as it was interpreted differently by different space actors. That delegation was also of the view that it would be more appropriate to use concrete terms for information needed in concrete situations, such as "trajectory of motion", "potentially hazardous conjunction" and "physical properties of objects".

113. The view was expressed that only the availability of aggregate information on the situation in space, space objects and space events would allow for the creation and application of a comprehensive international mechanism for ensuring the long-term sustainability of outer space activities.

114. The Committee noted with appreciation that a regional workshop on the long-term sustainability of outer space activities had been held in San José, on 7 and 8 April 2015, organized by the Secure World Foundation in collaboration with the Central American Association for Aeronautics and Space and with the support of the Ministry of Foreign Affairs of Costa Rica, and that it had been a valuable platform to advance regional space sustainability discussions within Latin America.

11. Examination of the physical nature and technical attributes of the geostationary orbit and its utilization and applications, including in the field of space communications, as well as other questions relating to developments in space communications, taking particular account of the needs and interests of developing countries, without prejudice to the role of the International Telecommunication Union

115. The Committee took note of the discussion of the Subcommittee under the item on the examination of the physical nature and technical attributes of the geostationary orbit and its utilization and applications, including in the field of space communications, as well as other questions relating to developments in space communications, taking particular account of the needs and interests of developing countries, without prejudice to the role of ITU, as reflected in the report of the Subcommittee (A/AC.105/1088, paras. 260-270).

116. Some delegations expressed the view that the geostationary orbit was a limited natural resource that was at risk of becoming saturated, thereby threatening the sustainability of space activities in that environment; that its exploitation should be rationalized; and that it should be made available to all States, under equitable conditions, irrespective of their current technical capabilities, taking into particular account the needs of developing countries and the geographical position of certain countries. Those delegations were also of the view that it was important to use the geostationary orbit in compliance with international law, in accordance with the decisions of ITU and within the legal framework established in the relevant United Nations treaties.

117. Some delegations expressed the view that the geostationary orbit was part of outer space, that it was not subject to national appropriation by claim of sovereignty, by occupation or by any other means, including by means of use or repeated use, and that its utilization was governed by the Outer Space Treaty and ITU treaties.

118. Some delegations expressed the view that, in order to ensure the sustainability of the geostationary orbit, it was necessary to keep the issue on the agenda of the Subcommittee and to explore it further, through the creation of appropriate working groups and legal and technical intergovernmental panels, as necessary.

12. Draft provisional agenda for the fifty-third session of the Scientific and Technical Subcommittee

119. The Committee took note of the discussion of the Subcommittee under the item on the draft provisional agenda for the fifty-third session of the Scientific and Technical Subcommittee, as reflected in the report of the Subcommittee (A/AC.105/1088, paras. 271-282).

120. The Committee endorsed the recommendations and decisions on the item made by the Subcommittee (A/AC.105/1088, paras. 273-278).

121. On the basis of the deliberations of the Subcommittee at its fifty-second session, the Committee agreed that the following items should be considered by the Subcommittee at its fifty-third session:

1. General exchange of views and introduction of reports submitted on national activities.
2. United Nations Programme on Space Applications.
3. Space technology for socioeconomic development in the context of the United Nations Conference on Sustainable Development and the post-2015 development agenda.
4. Matters relating to remote sensing of the Earth by satellite, including applications for developing countries and monitoring of the Earth's environment.
5. Space debris.
6. Space-system-based disaster management support.
7. Recent developments in global navigation satellite systems.
8. Space weather.
9. Near-Earth objects.
10. Use of nuclear power sources in outer space.

    (Work for 2016 as reflected in the extended multi-year workplan of the Working Group (see A/AC.105/1065, para. 187 and annex II, para. 9))

11. Long-term sustainability of outer space activities.

    (Work for 2016 as reflected in the multi-year workplan of the Working Group (A/64/20), para. 161) and extended by the Committee at its fifty-seventh session (A/69/20, para. 199))

12. Examination of the physical nature and technical attributes of the geostationary orbit and its utilization and applications, including in the field of space communications, as well as other questions relating to developments in space communications, taking particular account of the needs and interests of developing countries, without prejudice to the role of the International Telecommunication Union.

    (Single issue/item for discussion)

13. Draft provisional agenda for the fifty-fourth session of the Scientific and Technical Subcommittee, including identification of subjects to be dealt with as single issues/items for discussion or under multi-year workplans.

122. The Committee agreed that the Working Group of the Whole, the Working Group on the Use of Nuclear Power Sources in Outer Space and the Working Group on the Long-term Sustainability of Outer Space Activities should be reconvened at the fifty-third session of the Scientific and Technical Subcommittee.

123. The Committee agreed that the topic for the symposium to be organized in 2016 by the Office for Outer Space Affairs, in accordance with the agreement reached by the Subcommittee at its forty-fourth session, in 2007 (A/AC.105/890, annex I, para. 24), should be "The role of industry in space exploration".

124. The Committee endorsed the agreement reached by the Asia-Pacific States that Chiaki Mukai (Japan) would serve as Chair of the Working Group of the Whole in 2016 while V. K. Dadhwal (India) held the position of Chair of the Subcommittee, and that in 2017, V. K. Dadhwal would continue his chairmanship of the Working Group of the Whole.

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Fifty-eighth session
Vienna, 10-19 June 2015

Draft report

Addendum

Chapter II

Recommendations and decisions

C. Report of the Legal Subcommittee on its fifty-fourth session

1. The Committee took note with appreciation of the report of the Legal Subcommittee on its fifty-fourth session (A/AC.105/1090), which contained the results of its deliberations on the items considered by the Subcommittee in accordance with General Assembly resolution 69/85.

2. The Committee expressed its appreciation to Kai-Uwe Schrogl (Germany) for his able leadership during the fifty-fourth session of the Subcommittee.

3. The representatives representatives of Austria, Brazil, Canada, China, Colombia, the Czech Republic, Germany, Japan, Pakistan, Republic of Korea, Russian Federation, South Africa, United States and Venezuela (Bolivarian Republic of) made statements under the item. Statements were also made under the item by the representative of Chile on behalf of the Group of 77 and China and on behalf of the Group of Latin American and Caribbean States. During the general exchange of views, statements relating to the item were also made by other member States.

4. Some delegations reiterated the need to strengthen interaction between the Scientific and Technical Subcommittee and the Legal Subcommittee in order to synchronize the progressive development of space law with key scientific and technical developments in that area. They also expressed the view that the results attained by the working groups established under the Scientific and Technical Subcommittee should be submitted officially to the Legal Subcommittee for analysis.

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1. Information on the activities of international intergovernmental and non-governmental organizations relating to space law

5. The Committee took note of the discussion of the Subcommittee under the item on information on the activities of international intergovernmental and non-governmental organizations relating to space law, as reflected in the report of the Subcommittee (A/AC.105/1090, paras. 35-49).

6. The Committee noted the important role of international intergovernmental and non-governmental organizations and their contribution to its endeavours to promote the development of space law, and endorsed the recommendation of the Subcommittee that such organizations should again be invited to report to the Subcommittee at its fifty-fifth session on their activities relating to space law.

7. The Committee also noted that, in accordance with the decision of the Subcommittee, the International Institute for the Unification of Private Law (Unidroit) had made available to the Subcommittee information on recent developments in relation to the Protocol to the Convention on International Interests in Mobile Equipment on Matters Specific to Space Assets (A/AC.105/1090, para. 47).

2. Status and application of the five United Nations treaties on outer space

8. The Committee took note of the discussion of the Subcommittee under the item on the status and application of the five United Nations treaties on outer space, as reflected in the report of the Subcommittee (A/AC.105/1090, paras. 50-74).

9. The Committee endorsed the decisions and recommendations of the Subcommittee and its Working Group on the Status and Application of the Five United Nations Treaties on Outer Space, which had been reconvened under the chairmanship of Jean-François Mayence (Belgium) (A/AC.105/1090, para. 53, and annex I, paras. 13, 15 and 16).

10. Some delegations expressed the view that the United Nations treaties on outer space formed an indispensable legal basis for supporting the increasing scale of space activities and for strengthening international cooperation on the peaceful uses of outer space. Those delegations welcomed the growing adherence to the treaties and encouraged those States that had not yet become parties to the treaties to consider doing so.

11. Some delegations expressed the view that the Committee should review, update and modify the five treaties for the purpose of strengthening the guiding principles of outer space activities, in particular those principles protecting its peaceful use, establish the responsibility of States in space activities carried out by both governmental and non-governmental entities and encourage international cooperation.

12. The view was expressed that a universal, comprehensive convention on outer space should be developed with the aim of finding solutions for existing issues, which would allow the international legal regime on outer space to be taken to the next level of its development.

13. The view was expressed that an approach oriented towards a universal, comprehensive convention on outer space would be counterproductive, as the

principles contained in the existing space law instruments had established a framework that had encouraged the use and exploration of outer space for both spacefaring and non-spacefaring nations.

14. Some delegations expressed the view that, given the rapid increase in space activities and the emergence of new space actors, more coordination and synergy between the Legal Subcommittee and the Scientific and Technical Subcommittee were needed in order to promote the understanding, acceptance and application of the existing United Nations treaties and to strengthen the responsibility of States in carrying out space activities.

3. Matters relating to the definition and delimitation of outer space and the character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of the International Telecommunication Union

15. The Committee took note of the discussion of the Subcommittee under the agenda item on matters relating to the definition and delimitation of outer space and the character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of ITU, as reflected in the report of the Subcommittee (A/AC.105/1090, paras. 75-98).

16. The Committee endorsed the recommendations of the Subcommittee and its Working Group on the Definition and Delimitation of Outer Space, reconvened under the chairmanship of José Monserrat Filho (Brazil) (A/AC.105/1090, para. 78, and annex II, para. 17).

17. Some delegations welcomed the initiative of the Chair of the Working Group to define the term "space activities", which was one of the areas yet to be regulated by space law, with the objective of building a consensus, even a preliminary one, while temporarily putting aside the task of defining and delimiting outer space.

18. The Committee noted with satisfaction that a joint aerospace symposium on the theme "Emerging space activities and civil aviation: challenges and opportunities" had been organized by ICAO and the Office for Outer Space Affairs and held in Montreal, Canada, from 18 to 20 March 2015. The Committee noted that follow-up symposiums would be held in the United Arab Emirates in 2016 and in Vienna in 2017. The Committee also noted that the Office for Outer Space Affairs and ICAO would lead the learning group set up as a forum for discussion and that States members of the Committee would be invited to nominate their experts for membership in the learning group.

19. Some delegations expressed the view that scientific and technological progress, the commercialization of outer space, the participation of the private sector, emerging legal questions and the increasing use of outer space in general had made it necessary for the Subcommittee to consider the question of the definition and delimitation of outer space. The delegations expressing that view were also of the view that the definition and delimitation of outer space would help to establish a single legal regime regulating the movement of an aerospace object and to bring about legal clarity in the implementation of space law and air law, as well as to clarify the issues of the sovereignty and international responsibility of States and the boundary between airspace and outer space.

20. Some delegations expressed the view that the geostationary orbit — a limited natural resource clearly in danger of saturation — needed to be used rationally and should be made available to all States, irrespective of their current technical capacities. That would give States the possibility of access to the geostationary orbit under equitable conditions, bearing in mind, in particular, the needs and interests of developing countries, as well as the geographical position of certain countries, and taking into account the processes of ITU and relevant norms and decisions of the United Nations.

21. Some delegations expressed the view that the geostationary orbit was a limited natural resource with great potential for the implementation of a wide array of programmes for the benefit of all States and that it was at risk of becoming saturated, thereby threatening the sustainability of space activities in that environment; that its exploitation should be rationalized; and that it should be made available to all States, under equitable conditions, taking into particular account the needs of developing countries. Those delegations were also of the view that it was important to use the geostationary orbit in compliance with international law, in accordance with the decisions of ITU and within the legal framework established in the relevant United Nations treaties, while giving consideration to the contributions of space activities to sustainable development and the achievement of the Millennium Development Goals.

22. Some delegations expressed the view that the geostationary orbit was part of outer space, that it was not subject to national appropriation by a claim of sovereignty, by occupation or by any other means, including by means of use or repeated use, and that its utilization was governed by the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, and the ITU Constitution, Convention and Radio Regulations.

23. Some delegations expressed the view that, in order to ensure the sustainability of the geostationary orbit, it was necessary to keep that issue on the agenda of the Subcommittee and to explore it further, through the creation of appropriate working groups and legal and technical intergovernmental panels, as necessary. Those delegations were of the view that working groups or intergovernmental panels with technical and legal expertise should be established to promote equal access to the geostationary orbit, and called for the greater participation of ITU in the work of the Subcommittee on those matters.

4. National legislation relevant to the peaceful exploration and use of outer space

24. The Committee took note of the discussion of the Legal Subcommittee under the item on national legislation relevant to the peaceful exploration and use of outer space as reflected in the report of the Subcommittee (A/AC.105/1090, paras. 99-110).

25. The Committee noted with satisfaction that some States members of the Committee had already begun to implement the recommendations on national legislation relevant to the peaceful exploration and use of outer space contained in General Assembly resolution 68/74.

26. The Committee commended the Office for Outer Space Affairs and ITU for preparing a handout on issues related to registration, authorization, debris mitigation

and frequency management with respect to small and very small satellites that would become an important source of information for space actors intending to operate such satellites.

27. The Committee noted various activities of member States in strengthening or developing their national space laws and policies, as well as in reforming or establishing the governance of national space activities. In that connection, the Committee also noted that those activities were aimed at improving management, increasing competitiveness, involving academia, better responding to challenges posed by the development of space activities and better implementing international obligations.

28. The Committee noted with satisfaction the increasing number of space-related international cooperation programmes and projects, and stressed the importance of the development of space legislation by States, as national regulatory frameworks played a significant role in regulating and promoting such cooperation activities.

29. The view was expressed that it was important to take into account the increased level of commercial and private activities in outer space when developing a national space-related regulatory framework, particularly with respect to the responsibilities of States regarding their national space activities.

30. The Committee agreed that the general exchange of information on national legislation relevant to the peaceful exploration and use of outer space provided States with a comprehensive overview of the current status of national space laws and regulations and assisted States in understanding the different approaches taken at the national level with regard to the development of national space-related regulatory frameworks.

5. Capacity-building in space law

31. The Committee took note of the discussion of the Subcommittee under the item on capacity-building in space law, as reflected in the report of the Subcommittee (A/AC.105/1090, paras. 111-134).

32. The Committee endorsed the recommendation of the Subcommittee on the agenda item (A/AC.105/1090, para. 134).

33. The Committee agreed that international cooperation in research, training and education in space law was essential in order to further develop space activities and increase knowledge of the legal framework within which space activities were carried out.

34. The Committee noted that more efforts were needed to increase awareness of space law and its importance to space activities and programmes. Endeavours in that area such as the holding of workshops and the development of a curriculum played a vital role in building relevant capacity.

35. The Committee reaffirmed that the regional centres for space science and technology education, affiliated to the United Nations, had an important role in providing teaching and training opportunities in space law. The Committee noted that greater use of the regional centres could be made in order to provide more opportunities for academic linkages.

36. The Committee noted with appreciation the holding of the ninth United Nations workshop on space law, on the theme "The role of national space legislation in strengthening the rule of law". The workshop, held in Beijing from 17 to 21 November 2014, had been hosted by the Government of China and organized jointly by the Office for Outer Space Affairs, APSCO and the China National Space Administration.

37. The Committee noted with appreciation that the next APSCO Space Law and Policy Forum would be held in Beijing from 21 to 23 September 2015 and would be co-hosted by APSCO and the Institute of Space Law of the Beijing Institute of Technology. The Forum would focus on regional space cooperation and the latest developments in space law and policy.

38. The Committee reaffirmed its satisfaction at the completion of the education curriculum on space law and the updated web-based compilation of reading materials, found on the website of the Office for Outer Space Affairs, and welcomed the recent translation of the curriculum into all official United Nations languages.

6. Review and possible revision of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space

39. The Committee took note of the discussion of the Subcommittee under the item on the review and possible revision of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space, as reflected in the report of the Subcommittee (A/AC.105/1090, paras. 135-153).

40. Some delegations expressed the view that it was exclusively States, irrespective of their level of social, economic, scientific or technical development, that had an obligation to engage in regulatory activity associated with the use of nuclear power sources in outer space and to adapt national legislation to relevant international standards. Those delegations were also of the view that Governments bore international responsibility for national activities involving the use of nuclear power sources in outer space conducted by governmental and non-governmental organizations and that such activities must be beneficial, not detrimental, to humanity.

41. Some delegations called on the Legal Subcommittee to undertake a review of the Safety Framework for Nuclear Power Source Applications in Outer Space and to promote binding standards, with a view to ensuring responsible use of those sources.

42. Some delegations expressed the view that there should be greater coordination and interaction between the Scientific and Technical Subcommittee and the Legal Subcommittee in order to promote greater understanding, acceptance and implementation of the legal instruments and the development of new legal instruments related to the use of nuclear power sources in outer space.

43. Some delegations expressed the view that more consideration should be given to the use of nuclear power sources in outer space, specifically in the geostationary orbit and low-Earth atmosphere, in order to address the legal aspects of the problem of potential collisions of nuclear-powered space objects in orbit and the incidents or emergencies that could be created by the accidental re-entry of such objects into the

Earth's atmosphere, as well as the impact of such a re-entry on the Earth's surface, human life and health and the ecosystem.

7. General exchange of information and views on legal mechanisms relating to space debris mitigation measures, taking into account the work of the Scientific and Technical Subcommittee

44. The Committee took note of the discussion of the Legal Subcommittee under the item on the general exchange of information and views on legal mechanisms relating to space debris mitigation measures, taking into account the work of the Scientific and Technical Subcommittee, as reflected in the report of the Legal Subcommittee (A/AC.105/1090, paras. 154-184).

45. The Committee endorsed the decisions of the Subcommittee as contained in its report (A/AC.105/1090, para. 184).

46. The Committee noted the increasing amount of space debris and noted with satisfaction that the endorsement by the General Assembly, in its resolution 62/217, of the Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space[1] was a key step in providing all spacefaring nations with guidance on how to mitigate the problem of space debris, and encouraged Member States to consider voluntary implementation of the Guidelines.

47. The Committee noted with satisfaction that some States had taken measures to enforce the implementation of internationally recognized guidelines and standards relating to space debris through relevant provisions in their national legislation.

48. The Committee expressed its appreciation to Canada, the Czech Republic and Germany for the development of the compendium of space debris mitigation standards adopted by States and international organizations, and to the Secretariat for maintaining the compendium on a dedicated page of the website of the Office for Outer Space Affairs.

49. The Committee agreed that States members of the Committee and international intergovernmental organizations having permanent observer status with the Committee should be invited to further contribute to the compendium of space debris mitigation standards adopted by States and international organizations by providing or updating the information on any legislation or standards adopted with regard to space debris mitigation, using the template provided for that purpose. The Committee also agreed that all other States Members of the United Nations should be invited to contribute to the compendium and encouraged States with such regulations or standards to provide information on them.

50. Some delegations expressed the view that it was of the utmost importance to continue treating the legal aspects of issues related to space debris as a priority by discussing legal matters related to the generation of space debris and regulating its mitigation and removal. Those delegations were of the view that mitigation measures should not lead to the adoption of overly high standards or thresholds that would impede the development of the capacities of developing countries.

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[1] *Official Records of the General Assembly, Sixty-second Session, Supplement No. 20* (A/62/20), paras. 117 and 118 and annex.

51. Some delegations expressed the view that it was necessary to strengthen the interaction between the Scientific and Technical Subcommittee and the Legal Subcommittee in order to synchronize the progressive development of space law with major progress in space science and technology, and that outcomes of the work of working groups of the Subcommittee, in particular the Space Debris Mitigation Guidelines of the Committee, should be officially presented to the Legal Subcommittee for legal analysis regarding compliance with principles on outer space.

8. General exchange of information on non-legally binding United Nations instruments on outer space

52. The Committee took note of the discussion of the Subcommittee under the item entitled "General exchange of information on non-legally binding United Nations instruments on outer space", as reflected in the report of the Subcommittee (A/AC.105/1090, paras. 185-203) and endorsed the decisions of the Subcommittee as contained in its report (A/AC.105/1090, para. 203) on the retention of the item on the agenda of the Subcommittee at its fifty-fifth session, in 2016.

53. The Committee noted that existing non-legally binding United Nations instruments related to space activities had played an important role in complementing and supporting the United Nations treaties on outer space and served as an important means to address emerging challenges, such as the safe and sustainable use of outer space.

54. The Committee welcomed the efforts by the delegation of Japan to promote the exchange of views under the agenda item of the Subcommittee further by simplifying the questionnaire contained in A/AC.105/C.2/2015/CRP.24/Rev.1, and encouraging States members of the Committee and international organizations having permanent observer status with the Committee to respond, on a voluntary basis and as appropriate, to that questionnaire, and to submit their proposals to the delegation. The delegation of Japan had been invited to prepare a compilation of responses to be submitted to the Subcommittee during its fifty-fifth session, in 2016 (A/AC.105/1090, para. 191).

55. Some delegations expressed the view that there remained a significant divergence of opinion regarding the scope of deliberations under the agenda item of the Subcommittee. Those delegations also welcomed the agreement by the Subcommittee to retain the item on the agenda of the Subcommittee at its fifty-fifth session to continue the debate on both its substance and scope.

56. Some delegations expressed the view that the discussion under the agenda item should not be confined to examining solely the non-legally binding United Nations instruments, but all non-legally binding instruments related to space activities, which included existing ones as well as those under development. That included discussions on the European Union-led initiative on a draft international code of conduct for outer space activities, which should be conducted in a transparent way within the United Nations, in particular in the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space.

57. Some delegations were of the view that the Subcommittee should go beyond the discussion of non-legally binding instruments and aim at developing new legally

binding rules pertaining to outer space activities in order to reduce the legal uncertainties faced by both spacefaring and emerging spacefaring nations.

9. Review of international mechanisms for cooperation in the peaceful exploration and use of outer space

58. The Committee took note of the discussion of the Legal Subcommittee under the item on the review of international mechanisms for cooperation in the peaceful exploration and use of outer space, in accordance with its five-year workplan, as reflected in the report of the Subcommittee (A/AC.105/1090, paras. 204-216).

59. The Committee endorsed the decisions and recommendations of the Subcommittee and its Working Group on the Review of International Mechanisms for Cooperation in the Peaceful Exploration and Use of Outer Space, which had been reconvened by the Subcommittee at its fifty-fourth session, under the chairmanship of Setsuko Aoki (Japan) (A/AC.105/1090, para. 206, and annex III, paras. 9-10).

60. The Committee noted the breadth and diversity of the mechanisms utilized in space cooperation, including multilateral and bilateral legally binding agreements; memorandums of understanding; non-legally binding arrangements; principles and technical guidelines; multilateral coordination mechanisms through which space-system operators coordinated the development of applications of space systems for the benefit of the environment, human security and welfare, and development; and mechanisms facilitating a variety of international and regional organizations and forums.

61. The Committee also noted that the review of mechanisms for cooperation in space activities would allow for a clear overview to be gained of the different forms of international cooperation in space activities being undertaken and for analysis of their success. The Committee further noted that the review would contribute to the strengthening of international cooperation in the exploration and peaceful uses of outer space.

62. The Committee noted with satisfaction that the exchange of information under the item demonstrated the broad range of international cooperative mechanisms employed by States members of the Committee and that common principles and procedures had emerged through that exchange, as member States examined the various potential mechanisms to facilitate future cooperation in the exploration and peaceful uses of outer space.

10. Draft provisional agenda for the fifty-fifth session of the Legal Subcommittee

63. The Committee took note of the discussion of the Subcommittee under the item on proposals to the Committee for new items to be considered by the Legal Subcommittee at its fifty-fifth session, as reflected in the report of the Subcommittee (A/AC.105/1090, paras. 220-225).

64. On the basis of the deliberations of the Legal Subcommittee at its fifty-fourth session, the Committee agreed that the following substantive items should be considered by the Subcommittee at its fifty-fifth session:

Regular items

1. Adoption of the agenda.
2. Election of the Chair.
3. Statement by the Chair.
4. General exchange of views.
5. Information on the activities of international intergovernmental and non-governmental organizations relating to space law.
6. Status and application of the five United Nations treaties on outer space.
7. Matters relating to:
   (a) The definition and delimitation of outer space;
   (b) The character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of the International Telecommunication Union.
8. National legislation relevant to the peaceful exploration and use of outer space.
9. Capacity-building in space law.

Single issues/items for discussion

10. Review and possible revision of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space.
11. General exchange of information and views on legal mechanisms relating to space debris mitigation measures, taking into account the work of the Scientific and Technical Subcommittee.
12. General exchange of information on non-legally binding United Nations instruments on outer space.
13. General exchange of views on the legal aspects of space traffic management.
14. General exchange of views on the application of international law to small satellite activities.

Items considered under workplans

15. Review of international mechanisms for cooperation in the peaceful exploration and use of outer space.

    (Work for 2016 as reflected in the multi-year workplan in the report of the Legal Subcommittee on its fifty-first session (A/AC.105/1003, para. 179))

New items

16. Proposals to the Committee on the Peaceful Uses of Outer Space for new items to be considered by the Legal Subcommittee at its fifty-sixth session.

65. The Committee agreed that the Working Group on the Status and Application of the Five United Nations Treaties on Outer Space, the Working Group on the Definition and Delimitation of Outer Space and the Working Group on the Review of International Mechanisms for Cooperation in the Peaceful Exploration and Use of Outer Space should be reconvened at the fifty-fifth session of the Legal Subcommittee.

66. The Committee also agreed that the Subcommittee should review, at its fifty-fifth session, the need to extend beyond that session the mandate of the Working Group on the Status and Application of the Five United Nations Treaties on Outer Space.

67. The Committee commended Jean-François Mayence (Belgium), the outgoing Chair of the Working Group on the Status and Application of the Five United Nations Treaties on Outer Space, for his dedication in chairing the Working Group and his tireless efforts in moving the discussions in the Working Group forward.

68. The Committee endorsed the agreement reached by the Western European and other States that Bernhard Schmidt-Tedd (Germany) would serve as Chair of the Working Group on the Status and Application of the Five United Nations Treaties on Outer Space.

69. The Committee agreed that IISL and the European Centre for Space Law should be invited to organize a symposium on space law at the fifty-fifth session of the Subcommittee.